



DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                       |                                              |  |
|--------------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--|-----------------------|----------------------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ |                                                | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> |                                                            | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div> |                                               |  |                       |                                              |  |
| Date :                                                       |                                                | Step #:                                                                                                                                                                            |                                                            | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  | MRB (QSI042) Approval |                                              |  |
| Description Work Order Deviation                             |                                                |                                                                                                                                                                                    |                                                            | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                               |  |                       | Completed By                                 |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                       | Lead hand / Supervisor Approval Verification |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                       | QC / QA Coordinator Approval                 |  |
|                                                              |                                                |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                       |                                              |  |
| Root Cause                                                   |                                                | FAULT CATEGORY                                                                                                                                                                     |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                       |                                              |  |
| Environment <input type="checkbox"/>                         | No Re-verification <input type="checkbox"/>    | Pressure/Forced <input type="checkbox"/>                                                                                                                                           | Temperature/Cure <input type="checkbox"/>                  | Power Loss/Surge <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Positioned Wrong <input type="checkbox"/>     |  |                       |                                              |  |
| Design <input type="checkbox"/>                              | Operator <input type="checkbox"/>              | Bending <input type="checkbox"/>                                                                                                                                                   | Set-up <input type="checkbox"/>                            | Folio/Program <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Outside Dimensions <input type="checkbox"/>   |  |                       |                                              |  |
| Doc/Data <input type="checkbox"/>                            | Offset/Setup <input type="checkbox"/>          | Centre Not Concentric <input type="checkbox"/>                                                                                                                                     | BOM/Route <input type="checkbox"/>                         | Grain <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Over/Under tolerance <input type="checkbox"/> |  |                       |                                              |  |
| Equip/Tooling <input type="checkbox"/>                       | Supplier <input type="checkbox"/>              | Cracks <input type="checkbox"/>                                                                                                                                                    | Broken/Damage/Defect <input type="checkbox"/>              | Weld <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Part Incorrect <input type="checkbox"/>       |  |                       |                                              |  |
| Handling/Pre <input type="checkbox"/>                        | Training <input type="checkbox"/>              | Crimp/Kink/Ripple/Wave <input type="checkbox"/>                                                                                                                                    | Inspection Incomplete/Unqualified <input type="checkbox"/> | Wrong Stock Pulled <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Part Lost/Missing <input type="checkbox"/>    |  |                       |                                              |  |
| Material <input type="checkbox"/>                            | Use for Testing <input type="checkbox"/>       | Cuffs <input type="checkbox"/>                                                                                                                                                     | Contamination <input type="checkbox"/>                     | Out of Sequence <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Part Moved <input type="checkbox"/>           |  |                       |                                              |  |
| Internal Transport <input type="checkbox"/>                  | Poor Information <input type="checkbox"/>      | Crushing <input type="checkbox"/>                                                                                                                                                  | Countersink <input type="checkbox"/>                       | Off-set <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Drawing <input type="checkbox"/>              |  |                       |                                              |  |
| Tribal Knowledge <input type="checkbox"/>                    | Rushing <input type="checkbox"/>               | Heat Treat <input type="checkbox"/>                                                                                                                                                | Cut Too Short <input type="checkbox"/>                     | Mislabeled <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Finish <input type="checkbox"/>               |  |                       |                                              |  |
| LOA <input type="checkbox"/>                                 | Product Improvement <input type="checkbox"/>   | Wave/Twist in Tube <input type="checkbox"/>                                                                                                                                        | Instructions Incomplete/Unclear <input type="checkbox"/>   | Fit/Function <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Misread <input type="checkbox"/>              |  |                       |                                              |  |
| Substation <input type="checkbox"/>                          | Process Improvement <input type="checkbox"/>   | Marks/Chatter <input type="checkbox"/>                                                                                                                                             | Drill Holes <input type="checkbox"/>                       | Misaligned/off center <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Turning Sequence <input type="checkbox"/>     |  |                       |                                              |  |
| Past Expiry Date <input type="checkbox"/>                    | Manufacturing Process <input type="checkbox"/> |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                       |                                              |  |
| Misidentified <input type="checkbox"/>                       | Past Due <input type="checkbox"/>              |                                                                                                                                                                                    |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                       |                                              |  |
|                                                              |                                                | OTHER :                                                                                                                                                                            |                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                               |  |                       |                                              |  |

**Work Order ID 165333**

Monday, August 21, 2017 2:29:09 PM

**\*165333\***

Page 2

Item ID: D3488-042

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Blade Fitting RH

Start Date: 8/23/2017 Start Qty: 6.00

**\*6\***

Cust Item ID:

Required Date: 8/31/2017 Req'd Qty: 6.00

**\*6\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120

HAAS CNC VERTICAL MACHINING #1

0.51

**\*120\***

HAAS 1

Memo

2.03

HAAS CNC vertical machine #1

1-Machine as per Folio FA627 &amp; Dwg D34882-Debur

6

φ

S.C. 17/09/16

DAS  
14  
9-89

130

QC2- Inspect parts off machine FAI/FAIB

0.00

**\*130\***

QC

Memo

0.06

Quality Control

6

φ

S.C. 17/09/16

DAS  
14  
9-89

140

QC8- Inspect parts - second check

0.00

**\*140\***

QC

Memo

0.12

Quality Control

17/09/16

DTU

DAS  
16  
9-89



DQA:

Date:

17-10-31

## WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed:

Date:

1 SEP 29 2017

Work Order update only ☐

|                                                        |                                             |                                               |                                           |                                                 |                                           |                                            |                                   |                                                                                                                                                                            |                                 |                                        |                                                        |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |
|--------------------------------------------------------|---------------------------------------------|-----------------------------------------------|-------------------------------------------|-------------------------------------------------|-------------------------------------------|--------------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----------------------------------------|--------------------------------------------------------|-----------------------------------|---------------------------------------|------------------------------------------------|------------------------------------|--------------------------------|-----------------------------------------------|----------------------------------------|-----------------------------------|---------------------------------|-----------------------------------------------|-------------------------------|-----------------------------------------|---------------------------------------|-----------------------------------|-------------------------------------------------|------------------------------------------------------------|---------------------------------------------|--------------------------------------------|-----------------------------------|------------------------------------------|--------------------------------|----------------------------------------|------------------------------------------|-------------------------------------|---------------------------------------------|-------------------------------------------|-----------------------------------|--------------------------------------|----------------------------------|----------------------------------|-------------------------------------------|----------------------------------|-------------------------------------|----------------------------------------|-------------------------------------|---------------------------------|------------------------------|----------------------------------------------|---------------------------------------------|----------------------------------------------------------|---------------------------------------|----------------------------------|-------------------------------------|----------------------------------------------|----------------------------------------|--------------------------------------|------------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|---------|--|--|
| Work Order: <u>165333</u>                              |                                             | DISPOSITION                                   |                                           | AGAINST DEPARTMENT/PROCESS                      |                                           |                                            |                                   |                                                                                                                                                                            |                                 |                                        |                                                        |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |
| Part No. <u>D3488-042</u>                              |                                             | Rework <input type="checkbox"/>               |                                           | Skid-tube <input type="checkbox"/>              |                                           | Cross tube <input type="checkbox"/>        |                                   | Water Jet <input type="checkbox"/>                                                                                                                                         |                                 | Engineering <input type="checkbox"/>   |                                                        |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |
| NCR No. <u>17-6631</u>                                 |                                             | Scrap <input type="checkbox"/>                |                                           | Machining <input checked="" type="checkbox"/>   |                                           | Small Fab <input type="checkbox"/>         |                                   | Prod. Eng. Coord. <input type="checkbox"/>                                                                                                                                 |                                 | Quality <input type="checkbox"/>       |                                                        |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |
|                                                        |                                             | Use-as-is <input checked="" type="checkbox"/> |                                           | Thermoforming <input type="checkbox"/>          |                                           | Finishing <input type="checkbox"/>         |                                   | Rec/Store/Packaging <input type="checkbox"/>                                                                                                                               |                                 | Other <input type="checkbox"/>         |                                                        |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |
|                                                        |                                             | Suspected Unapproved <input type="checkbox"/> |                                           | Large Fab <input type="checkbox"/>              |                                           | Composite <input type="checkbox"/>         |                                   | Supplier <input type="checkbox"/>                                                                                                                                          |                                 |                                        |                                                        |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |
| Date: <u>2017/09/26</u>                                |                                             | Step #: <u>110</u>                            |                                           | QTY Effective: <u>84</u>                        |                                           |                                            |                                   | MRB (QS1042) Approval                                                                                                                                                      |                                 |                                        |                                                        |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |
| Description Work Order Deviation                       |                                             |                                               |                                           | Disposition                                     |                                           |                                            |                                   | DAS 12 9-89 17/9/26<br>Completed By<br>DAS 12 9-89 17/9/26<br>Lead hand / Supervisor Approval Verification<br>PD 17-09-26<br>QC / QA Coordinator Approval<br>S. H. 17/9/26 |                                 |                                        |                                                        |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |
| QTY 84 Parts lower Ann 1-802<br>Measure 1-815 - 1-807. |                                             |                                               |                                           | Acceptable. No effect on stiffness of stringer. |                                           |                                            |                                   |                                                                                                                                                                            |                                 |                                        |                                                        |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |
| Root Cause                                             |                                             | FAULT CATEGORY                                |                                           |                                                 |                                           |                                            |                                   |                                                                                                                                                                            |                                 |                                        |                                                        |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |
| Environment <input type="checkbox"/>                   | No Re-verification <input type="checkbox"/> | Pressure/Forced <input type="checkbox"/>      | Temperature/Cure <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/>       | Positioned Wrong <input type="checkbox"/> | Design <input checked="" type="checkbox"/> | Operator <input type="checkbox"/> | Bending <input type="checkbox"/>                                                                                                                                           | Set-up <input type="checkbox"/> | Folio/Program <input type="checkbox"/> | Outside Dimensions <input checked="" type="checkbox"/> | Doc/Data <input type="checkbox"/> | Offset/Setup <input type="checkbox"/> | Centre Not Concentric <input type="checkbox"/> | BOM/Route <input type="checkbox"/> | Grain <input type="checkbox"/> | Over/Under tolerance <input type="checkbox"/> | Equip/Tooling <input type="checkbox"/> | Supplier <input type="checkbox"/> | Cracks <input type="checkbox"/> | Broken/Damage/Defect <input type="checkbox"/> | Weld <input type="checkbox"/> | Part Incorrect <input type="checkbox"/> | Handling/Pre <input type="checkbox"/> | Training <input type="checkbox"/> | Crimp/Kink/Ripple/Wave <input type="checkbox"/> | Inspection Incomplete/Unqualified <input type="checkbox"/> | Wrong Stock Pulled <input type="checkbox"/> | Part Lost/Missing <input type="checkbox"/> | Material <input type="checkbox"/> | Use for Testing <input type="checkbox"/> | Cuffs <input type="checkbox"/> | Contamination <input type="checkbox"/> | Out of Sequence <input type="checkbox"/> | Part Moved <input type="checkbox"/> | Internal Transport <input type="checkbox"/> | Poor Information <input type="checkbox"/> | Crushing <input type="checkbox"/> | Countersink <input type="checkbox"/> | Off-set <input type="checkbox"/> | Drawing <input type="checkbox"/> | Tribal Knowledge <input type="checkbox"/> | Rushing <input type="checkbox"/> | Heat Treat <input type="checkbox"/> | Cut Too Short <input type="checkbox"/> | Mislabeled <input type="checkbox"/> | Finish <input type="checkbox"/> | LOA <input type="checkbox"/> | Product Improvement <input type="checkbox"/> | Wave/Twist in Tube <input type="checkbox"/> | Instructions Incomplete/Unclear <input type="checkbox"/> | Fit/Function <input type="checkbox"/> | Misread <input type="checkbox"/> | Substation <input type="checkbox"/> | Process Improvement <input type="checkbox"/> | Marks/Chatter <input type="checkbox"/> | Drill Holes <input type="checkbox"/> | Misaligned/off center <input type="checkbox"/> | Turning Sequence <input type="checkbox"/> | Past Expiry Date <input type="checkbox"/> | Manufacturing Process <input type="checkbox"/> | OTHER : |  |  |
| Misidentified <input type="checkbox"/>                 | Past Due <input type="checkbox"/>           |                                               |                                           |                                                 |                                           |                                            |                                   |                                                                                                                                                                            |                                 |                                        |                                                        |                                   |                                       |                                                |                                    |                                |                                               |                                        |                                   |                                 |                                               |                               |                                         |                                       |                                   |                                                 |                                                            |                                             |                                            |                                   |                                          |                                |                                        |                                          |                                     |                                             |                                           |                                   |                                      |                                  |                                  |                                           |                                  |                                     |                                        |                                     |                                 |                              |                                              |                                             |                                                          |                                       |                                  |                                     |                                              |                                        |                                      |                                                |                                           |                                           |                                                |         |  |  |

# Work Order ID 165333

Monday, August 21, 2017 2:29:09 PM

**\*165333\***

Page 3

Item ID: D3488-042 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Blade Fitting RH  
 Start Date: 8/23/2017 Start Qty: 6.00 **\*6\*** Cust Item ID:  
 Required Date: 8/31/2017 Req'd Qty: 6.00 **\*6\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                     | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|----------------------------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 150                            | Chemical Conversion Coat per QSI005 4.1      | 0.00                 |         |        |              |               |               |                  |                |
| <b>*150*</b>                   | HandFinish                                   | 0.52                 |         |        |              |               |               |                  |                |
| Hand Finishing                 | Memo                                         |                      |         |        |              |               |               |                  |                |
| 160                            | White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum | 0.00                 |         |        |              |               |               |                  |                |
| <b>*160*</b>                   | Powdercoat                                   | 0.29                 |         |        |              |               |               |                  |                |
| Powder Coating                 | Memo                                         |                      |         |        |              |               |               |                  |                |
|                                | START TIME: 1:45                             | OVEN TEMPERATURE:    |         |        |              |               |               |                  |                |
|                                | FINISH TIME: 2:15                            |                      |         |        |              |               |               |                  |                |
| 170                            | QC3- Inspect Part Finish                     | 0.00                 |         |        |              |               |               |                  |                |
| <b>*170*</b>                   | QC                                           | 0.06                 |         |        |              |               |               |                  |                |
| Quality Control                | Memo                                         |                      |         |        |              |               |               |                  |                |

⑥ 17-09-26 15:09

6 17-09-26 15:09

GRU d 11/12/2017 15:09

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>             Skid-tube <input type="checkbox"/><br/>             Machining <input type="checkbox"/><br/>             Thermoforming <input type="checkbox"/><br/>             Large Fab <input type="checkbox"/> </div> <div>             Cross tube <input type="checkbox"/><br/>             Small Fab <input type="checkbox"/><br/>             Finishing <input type="checkbox"/><br/>             Composite <input type="checkbox"/> </div> <div>             Water Jet <input type="checkbox"/><br/>             Prod. Eng. Coord. <input type="checkbox"/><br/>             Rec/Store/Packaging <input type="checkbox"/><br/>             Supplier <input type="checkbox"/> </div> <div>             Engineering <input type="checkbox"/><br/>             Quality <input type="checkbox"/><br/>             Other <input type="checkbox"/> </div> </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Step #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MRB (QSI042) Approval                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Completed By                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Lead hand / Supervisor Approval Verification                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | QC / QA Coordinator Approval                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Root Cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FAULT CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Environment <input type="checkbox"/><br>Design <input type="checkbox"/><br>Doc/Data <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Pre <input type="checkbox"/><br>Material <input type="checkbox"/><br>Internal Transport <input type="checkbox"/><br>Tribal Knowledge <input type="checkbox"/><br>LOA <input type="checkbox"/><br>Substation <input type="checkbox"/><br>Past Expiry Date <input type="checkbox"/><br>Misidentified <input type="checkbox"/> | No Re-verification <input type="checkbox"/><br>Operator <input type="checkbox"/><br>Offset/Setup <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Training <input type="checkbox"/><br>Use for Testing <input type="checkbox"/><br>Poor Information <input type="checkbox"/><br>Rushing <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Past Due <input type="checkbox"/> | Pressure/Forced <input type="checkbox"/><br>Bending <input type="checkbox"/><br>Centre Not Concentric <input type="checkbox"/><br>Cracks <input type="checkbox"/><br>Crimp/Kink/Ripple/Wave <input type="checkbox"/><br>Cuffs <input type="checkbox"/><br>Crushing <input type="checkbox"/><br>Heat Treat <input type="checkbox"/><br>Wave/Twist in Tube <input type="checkbox"/><br>Marks/Chatter <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Temperature/Cure <input type="checkbox"/><br>Set-up <input type="checkbox"/><br>BOM/Route <input type="checkbox"/><br>Broken/Damage/Defect <input type="checkbox"/><br>Inspection Incomplete/Unqualified <input type="checkbox"/><br>Contamination <input type="checkbox"/><br>Countersink <input type="checkbox"/><br>Cut Too Short <input type="checkbox"/><br>Instructions Incomplete/Unclear <input type="checkbox"/><br>Drill Holes <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/><br>Folio/Program <input type="checkbox"/><br>Grain <input type="checkbox"/><br>Weld <input type="checkbox"/><br>Wrong Stock Pulled <input type="checkbox"/><br>Out of Sequence <input type="checkbox"/><br>Off-set <input type="checkbox"/><br>Misabeled <input type="checkbox"/><br>Fit/Function <input type="checkbox"/><br>Misaligned/off center <input type="checkbox"/> | Positioned Wrong <input type="checkbox"/><br>Outside Dimensions <input type="checkbox"/><br>Over/Under tolerance <input type="checkbox"/><br>Part Incorrect <input type="checkbox"/><br>Part Lost/Missing <input type="checkbox"/><br>Part Moved <input type="checkbox"/><br>Drawing <input type="checkbox"/><br>Finish <input type="checkbox"/><br>Misread <input type="checkbox"/><br>Turning Sequence <input type="checkbox"/> |
| OTHER : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |



**Work Order ID 165333**

Monday, August 21, 2017 2:29:09 PM

**\*165333\***

Page 4

Item ID: D3488-042 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Blade Fitting RH  
Start Date: 8/23/2017 Start Qty: 6.00 **\*6\*** Cust Item ID:  
Required Date: 8/31/2017 Req'd Qty: 6.00 **\*6\*** Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                             | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|------------------------------------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 180                            | HandFinishing                                        | 0.00                 |         |        |              |               |               |                  |                |
| <b>*180*</b>                   | HandFinish                                           | 0.39                 |         |        |              |               |               |                  |                |
| Hand Finishing                 | <u>    </u> Memo<br>Install Inserts as per Dwg D3488 |                      |         |        |              |               |               |                  |                |
| 190                            | QC5- Inspect part completeness to step on W/O        | 0.00                 |         |        |              |               |               |                  |                |
| <b>*190*</b>                   | QC                                                   | 0.12                 |         |        |              |               |               |                  |                |
| Quality Control                |                                                      |                      |         |        |              |               |               |                  |                |
| 200                            | Identify as per dwg & Stock Location: <u>FP-001</u>  | 0.00                 |         |        |              |               |               |                  |                |
| <b>*200*</b>                   | Packaging                                            | 0.06                 |         |        |              |               |               |                  |                |
| Packaging                      | Memo<br>LOCATION : FP001                             |                      |         |        |              |               |               |                  |                |

*Handwritten notes:*  
6RH d 12/10/12  
6 d 1709-27  
X6RH d 14/09/22

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |                      |                          |                                   |                          |            |                          |                     |                          |             |                          |
|--------------------------------------------------------------|----------------------|--------------------------|-----------------------------------|--------------------------|------------|--------------------------|---------------------|--------------------------|-------------|--------------------------|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b>   |                          | <b>AGAINST DEPARTMENT/PROCESS</b> |                          |            |                          |                     |                          |             |                          |
|                                                              | Rework               | <input type="checkbox"/> | Skid-tube                         | <input type="checkbox"/> | Cross tube | <input type="checkbox"/> | Water Jet           | <input type="checkbox"/> | Engineering | <input type="checkbox"/> |
|                                                              | Scrap                | <input type="checkbox"/> | Machining                         | <input type="checkbox"/> | Small Fab  | <input type="checkbox"/> | Prod. Eng. Coord.   | <input type="checkbox"/> | Quality     | <input type="checkbox"/> |
|                                                              | Use-as-is            | <input type="checkbox"/> | Thermoforming                     | <input type="checkbox"/> | Finishing  | <input type="checkbox"/> | Rec/Store/Packaging | <input type="checkbox"/> | Other       | <input type="checkbox"/> |
|                                                              | Suspected Unapproved | <input type="checkbox"/> | Large Fab                         | <input type="checkbox"/> | Composite  | <input type="checkbox"/> | Supplier            | <input type="checkbox"/> |             |                          |

|        |         |                 |                       |
|--------|---------|-----------------|-----------------------|
| Date : | Step #: | QTY Effective : | MRB (QSI042) Approval |
|--------|---------|-----------------|-----------------------|

|                                         |                    |                                                     |
|-----------------------------------------|--------------------|-----------------------------------------------------|
| <b>Description Work Order Deviation</b> | <b>Disposition</b> | <b>Completed By</b>                                 |
|                                         |                    | <b>Lead hand / Supervisor Approval Verification</b> |
|                                         |                    |                                                     |
|                                         |                    | <b>QC / QA Coordinator Approval</b>                 |

|                    |                          |                       |                        |                          |                                   |
|--------------------|--------------------------|-----------------------|------------------------|--------------------------|-----------------------------------|
| <b>Root Cause</b>  |                          |                       | <b>FAULT CATEGORY</b>  |                          |                                   |
| Environment        | <input type="checkbox"/> | No Re-verification    | Pressure/Forced        | <input type="checkbox"/> | Temperature/Cure                  |
| Design             | <input type="checkbox"/> | Operator              | Bending                | <input type="checkbox"/> | Set-up                            |
| Doc/Data           | <input type="checkbox"/> | Offset/Setup          | Centre Not Concentric  | <input type="checkbox"/> | BOM/Route                         |
| Equip/Tooling      | <input type="checkbox"/> | Supplier              | Cracks                 | <input type="checkbox"/> | Broken/Damage/Defect              |
| Handling/Pre       | <input type="checkbox"/> | Training              | Crimp/Kink/Ripple/Wave | <input type="checkbox"/> | Inspection Incomplete/Unqualified |
| Material           | <input type="checkbox"/> | Use for Testing       | Cuffs                  | <input type="checkbox"/> | Contamination                     |
| Internal Transport | <input type="checkbox"/> | Poor Information      | Crushing               | <input type="checkbox"/> | Countersink                       |
| Tribal Knowledge   | <input type="checkbox"/> | Rushing               | Heat Treat             | <input type="checkbox"/> | Cut Too Short                     |
| LOA                | <input type="checkbox"/> | Product Improvement   | Wave/Twist in Tube     | <input type="checkbox"/> | Instructions Incomplete/Unclear   |
| Substation         | <input type="checkbox"/> | Process Improvement   | Marks/Chatter          | <input type="checkbox"/> | Drill Holes                       |
| Past Expiry Date   | <input type="checkbox"/> | Manufacturing Process |                        |                          |                                   |
| Misidentified      | <input type="checkbox"/> | Past Due              | OTHER :                |                          |                                   |



**\*165333\***

Monday, August 21, 2017 2:29:09 PM

**\*N900040100\***

Setup Start \*NS1\*

Stop \*NS2\*

\*6\*

**Start Date:** 8/23/2017      **Start Qty:** 6.00

**Cust Item ID:**

**Required Date: 8/31/2017      Req'd Qty: 6.00**

\*6\*

**Customer:**

**Reference:**

**Approvals:**      **Process Plan:** \_\_\_\_\_      **Date:** \_\_\_\_\_      **Tooling:** \_\_\_\_\_      **Date:** \_\_\_\_\_

Run Start \*NR1\*

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop \*NR2\*

**Insp.  
Stamp**

QC21- Final Inspection - Work Order Release

0.00

**\*210\***

QC

## Memo

0.60

## Quality Control

DAS  
21  
9-86

SEP 27 2017

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            |                                                |                                               |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------|-----------------------------------------------|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                                            |                                                |                                               |
| Date :                                                       | Step #:                                                                                                                                                                            | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            | MRB (QSI042) Approval                          |                                               |
| Description Work Order Deviation                             |                                                                                                                                                                                    | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                            | Completed By                                   |                                               |
|                                                              |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            | Lead hand / Supervisor Approval Verification   |                                               |
|                                                              |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            | QC / QA Coordinator Approval                   |                                               |
|                                                              |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            |                                                |                                               |
| Root Cause                                                   |                                                                                                                                                                                    | FAULT CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                            |                                                |                                               |
| Environment <input type="checkbox"/>                         | No Re-verification <input type="checkbox"/>                                                                                                                                        | Pressure/Forced <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Temperature/Cure <input type="checkbox"/>                  | Power Loss/Surge <input type="checkbox"/>      | Positioned Wrong <input type="checkbox"/>     |
| Design <input type="checkbox"/>                              | Operator <input type="checkbox"/>                                                                                                                                                  | Bending <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Set-up <input type="checkbox"/>                            | Folio/Program <input type="checkbox"/>         | Outside Dimensions <input type="checkbox"/>   |
| Doc/Data <input type="checkbox"/>                            | Offset/Setup <input type="checkbox"/>                                                                                                                                              | Centre Not Concentric <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | BOM/Route <input type="checkbox"/>                         | Grain <input type="checkbox"/>                 | Over/Under tolerance <input type="checkbox"/> |
| Equip/Tooling <input type="checkbox"/>                       | Supplier <input type="checkbox"/>                                                                                                                                                  | Cracks <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Broken/Damage/Defect <input type="checkbox"/>              | Weld <input type="checkbox"/>                  | Part Incorrect <input type="checkbox"/>       |
| Handling/Pre <input type="checkbox"/>                        | Training <input type="checkbox"/>                                                                                                                                                  | Crimp/Kink/Ripple/Wave <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Inspection Incomplete/Unqualified <input type="checkbox"/> | Wrong Stock Pulled <input type="checkbox"/>    | Part Lost/Missing <input type="checkbox"/>    |
| Material <input type="checkbox"/>                            | Use for Testing <input type="checkbox"/>                                                                                                                                           | Cuffs <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Contamination <input type="checkbox"/>                     | Out of Sequence <input type="checkbox"/>       | Part Moved <input type="checkbox"/>           |
| Internal Transport <input type="checkbox"/>                  | Poor Information <input type="checkbox"/>                                                                                                                                          | Crushing <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Countersink <input type="checkbox"/>                       | Off-set <input type="checkbox"/>               | Drawing <input type="checkbox"/>              |
| Tribal Knowledge <input type="checkbox"/>                    | Rushing <input type="checkbox"/>                                                                                                                                                   | Heat Treat <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Cut Too Short <input type="checkbox"/>                     | Mislabeled <input type="checkbox"/>            | Finish <input type="checkbox"/>               |
| LOA <input type="checkbox"/>                                 | Product Improvement <input type="checkbox"/>                                                                                                                                       | Wave/Twist in Tube <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Instructions Incomplete/Unclear <input type="checkbox"/>   | Fit/Function <input type="checkbox"/>          | Misread <input type="checkbox"/>              |
| Substation <input type="checkbox"/>                          | Process Improvement <input type="checkbox"/>                                                                                                                                       | Marks/Chatter <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Drill Holes <input type="checkbox"/>                       | Misaligned/off center <input type="checkbox"/> | Turning Sequence <input type="checkbox"/>     |
| Past Expiry Date <input type="checkbox"/>                    | Manufacturing Process <input type="checkbox"/>                                                                                                                                     | OTHER : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            |                                                |                                               |
| Misidentified <input type="checkbox"/>                       | Past Due <input type="checkbox"/>                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            |                                                |                                               |

Monday, August 21, 2017 2:29:12 PM

**\*165333\***

**\*D3488-042\***

**Required Qty: 6.00**

**Comments:** IPP Rev:A New Issue 06-02-28 JLM  
IPP Rev:B As per Rev B 06-03-30 JLM  
IPP Rev:C Now On Doosan Lathe JLM Verified BY:DD

| Component Item ID/<br>Item Name                                                                                                                            | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand  | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued    | Status |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|-----------------|-------------|--------------|---------------|-------------------|--------|
| D6103-003                                                                                                                                                  |                        | Manufactured  | No          |                     |                  | 100             | Each               | 13.0000         | 1           | 6            |               | DAS<br>33<br>9-89 |        |
| <div style="background-color: yellow; display: inline-block; padding: 2px;">*D6103-003*</div> <div style="margin-left: 10px;">Round Billet, Aluminum</div> |                        |               |             |                     |                  |                 |                    |                 |             |              |               |                   |        |
|                                                                                                                                                            |                        |               |             | <u>Location</u>     |                  | <u>Loc Qty</u>  |                    | <u>Loc Code</u> |             |              |               | 17/08/30          |        |
|                                                                                                                                                            |                        |               |             | MAT043              |                  | 13              |                    |                 |             |              |               |                   |        |
|                                                                                                                                                            |                        |               |             | 159713              |                  | 2               |                    |                 |             |              |               |                   |        |
|                                                                                                                                                            |                        |               |             | 163267              |                  | 11              |                    |                 |             | 6            |               |                   |        |
| ALS7-1032-225                                                                                                                                              | AELS8-1032-225         | Purchased     | No          |                     |                  | 180             | Each               | 120.0000        | 4           | 24           |               |                   |        |
| <div style="background-color: yellow; display: inline-block; padding: 2px;">*AI S7-1032-225*</div> <div style="margin-left: 10px;">Insert</div>            |                        |               |             |                     |                  |                 |                    |                 |             |              |               |                   |        |
|                                                                                                                                                            |                        |               |             | <u>Location</u>     |                  | <u>Loc Qty</u>  |                    | <u>Loc Code</u> |             |              |               |                   |        |
|                                                                                                                                                            |                        |               |             | FG                  |                  | 120             |                    | M 135498        |             |              |               |                   |        |
|                                                                                                                                                            |                        |               |             | 118520              |                  | 120             |                    |                 |             | 824          |               |                   |        |



DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                      | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Step #:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | QTY Effective :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MRB (QS1042) Approval                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Completed By                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Lead hand / Supervisor Approval Verification                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | QC / QA Coordinator Approval                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Root Cause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | FAULT CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Environment <input type="checkbox"/><br>Design <input type="checkbox"/><br>Doc/Data <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Pre <input type="checkbox"/><br>Material <input type="checkbox"/><br>Internal Transport <input type="checkbox"/><br>Tribal Knowledge <input type="checkbox"/><br>LOA <input type="checkbox"/><br>Substation <input type="checkbox"/><br>Past Expiry Date <input type="checkbox"/><br>Misidentified <input type="checkbox"/> | No Re-verification <input type="checkbox"/><br>Operator <input type="checkbox"/><br>Offset/Setup <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Training <input type="checkbox"/><br>Use for Testing <input type="checkbox"/><br>Poor Information <input type="checkbox"/><br>Rushing <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Past Due <input type="checkbox"/> | Pressure/Forced <input type="checkbox"/><br>Bending <input type="checkbox"/><br>Centre Not Concentric <input type="checkbox"/><br>Cracks <input type="checkbox"/><br>Crimp/Kink/Ripple/Wave <input type="checkbox"/><br>Cuffs <input type="checkbox"/><br>Crushing <input type="checkbox"/><br>Heat Treat <input type="checkbox"/><br>Wave/Twist in Tube <input type="checkbox"/><br>Marks/Chatter <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Temperature/Cure <input type="checkbox"/><br>Set-up <input type="checkbox"/><br>BOM/Route <input type="checkbox"/><br>Broken/Damage/Defect <input type="checkbox"/><br>Inspection Incomplete/Unqualified <input type="checkbox"/><br>Contamination <input type="checkbox"/><br>Countersink <input type="checkbox"/><br>Cut Too Short <input type="checkbox"/><br>Instructions Incomplete/Unclear <input type="checkbox"/><br>Drill Holes <input type="checkbox"/> | Power Loss/Surge <input type="checkbox"/><br>Folio/Program <input type="checkbox"/><br>Grain <input type="checkbox"/><br>Weld <input type="checkbox"/><br>Wrong Stock Pulled <input type="checkbox"/><br>Out of Sequence <input type="checkbox"/><br>Off-set <input type="checkbox"/><br>Misabeled <input type="checkbox"/><br>Fit/Function <input type="checkbox"/><br>Misaligned/off center <input type="checkbox"/> | Positioned Wrong <input type="checkbox"/><br>Outside Dimensions <input type="checkbox"/><br>Over/Under tolerance <input type="checkbox"/><br>Part Incorrect <input type="checkbox"/><br>Part Lost/Missing <input type="checkbox"/><br>Part Moved <input type="checkbox"/><br>Drawing <input type="checkbox"/><br>Finish <input type="checkbox"/><br>Misread <input type="checkbox"/><br>Turning Sequence <input type="checkbox"/> |
| OTHER : _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|                                                                       |  |                             |
|-----------------------------------------------------------------------|--|-----------------------------|
| <b>DART AEROSPACE LTD</b>                                             |  | <b>Work Order:</b> 165333   |
| <b>Description:</b> Blade Fitting, RH / Turning Detail for D3488-1/-2 |  | <b>Part Number:</b> D3488-2 |
| <b>Inspection Dwg:</b> D3488 / DSK101 <b>Rev:</b> B / D               |  | <b>Page 1 of 2</b>          |

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article    ☐ Prototype

| Drawing Dimension | Tolerance          | Actual Dimension | Accept | Reject | Method of Inspection | Comments     |
|-------------------|--------------------|------------------|--------|--------|----------------------|--------------|
| Lathe Section     |                    |                  |        |        |                      |              |
| Ø2.150            | +/-0.005           | 2.148            | ✓      |        | MIP-04               | vern         |
| Ø2.780            | +/-0.005           | 2.781            | ✓      |        |                      |              |
| Ø3.125            | +/-0.010           | 3.126            | ✓      |        |                      |              |
| Ø3.346            | +/-0.010           | 3.346            | ✓      |        |                      |              |
| 0.125 x 45°       | +/-0.010 x +/-0.1° | 0.125 x 45°      | ✓      |        |                      |              |
| 8.000             | +0.030/-0.000      | 8.011            | ✓      |        |                      |              |
| 9.250             | +/-0.010           | 9.250            | ✓      |        |                      |              |
| 0.188             | +/-0.010           | 0.183            | ✓      |        |                      |              |
| R0.032            | +/-0.010           | 0.032            | ✓      |        |                      |              |
| R0.062            | +/-0.010           | 0.062            | ✓      |        |                      |              |
| Ø0.297            | +0.005/-0.001      | 0.300            | ✓      |        |                      |              |
| Ø0.430            | +/-0.010           | 0.430            | ✓      |        |                      |              |
| 0.100             | +/-0.010           | 0.100            | ✓      |        |                      |              |
| 0.125             | +/-0.010           | 0.130            | ✓      |        |                      |              |
| 2.620             | +/-0.010           | 2.621            | ✓      |        |                      |              |
| 3.500             | +/-0.010           | 3.500            | ✓      |        |                      |              |
| 1.005             | +/-0.010           | 1.007            | ✓      |        | 31006                | Height gauge |
| Ø0.484            | +0.005/-0.001      | 0.487            | ✓      |        | MIP-04               | vern         |
| 1.180             | +/-0.010           | 1.181            | ✓      |        |                      |              |
| 3.150             | +/-0.010           | 3.150            | ✓      |        |                      |              |
| 3.070             | +/-0.010           | 3.065            | ✓      |        | 31006                | Height gauge |
| R0.063            | +/-0.010           | 0.063            | ✓      |        | MIP-04               | vern         |
|                   |                    |                  |        |        |                      |              |
|                   |                    |                  |        |        |                      |              |



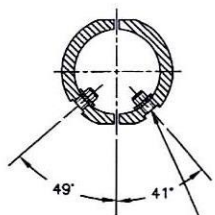
|                                                                       |  |                             |
|-----------------------------------------------------------------------|--|-----------------------------|
| <b>DART AEROSPACE LTD</b>                                             |  | <b>Work Order:</b> 165333   |
| <b>Description:</b> Blade Fitting, RH / Turning Detail for D3488-1/-2 |  | <b>Part Number:</b> D3488-2 |
| <b>Inspection Dwg:</b> D3488 / DSK101 <b>Rev:</b> B / D               |  | <b>Page 2 of 2</b>          |

| Drawing Dimension      | Tolerance     | Actual Dimension | Accept | Reject | Method of Inspection | Comments |
|------------------------|---------------|------------------|--------|--------|----------------------|----------|
| <b>Milling Section</b> |               |                  |        |        |                      |          |
| Ø0.508                 | +0.006/-0.001 | .508             | ✓      |        | G.P                  |          |
| 0.750                  | +/-0.010      | .749             | ✓      |        | Ver EDGE             |          |
| 1.500                  | +/-0.010      | 1.498            | ✓      |        | "                    |          |
| 11.18                  | +/-0.030      | 11.175           | ✓      |        | H.G.                 |          |
| R0.062                 | +/-0.010      | R0.062           | ✓      |        | R.G.                 |          |
| 0.125                  | +/-0.010      | .119             | ✓      |        | Ver EDGE             |          |
| 0.590                  | +/-0.010      | .589             | ✓      |        | H.G.                 |          |
| 0.793                  | +/-0.010      | .795             | ✓      |        | H.G.                 |          |
| 1.351                  | +/-0.010      | 1.351            | ✓      |        | H.G.                 |          |
| 1.317                  | +/-0.010      | 1.322            | ✓      |        | Ver EDGE             |          |
| 1.802                  | +/-0.010      | 1.809            | ✓      |        | H.G.                 |          |
|                        |               |                  |        |        |                      |          |
|                        |               |                  |        |        |                      |          |
|                        |               |                  |        |        |                      |          |

|                                              |                                             |                                             |
|----------------------------------------------|---------------------------------------------|---------------------------------------------|
| <b>Measured by:</b> SC. 14<br>Date: 17/02/16 | <b>Audited by:</b> DAS 16<br>Date: 07/02/16 | <b>Prototype Approval:</b> N/A<br>Date: N/A |
|----------------------------------------------|---------------------------------------------|---------------------------------------------|

| Rev | Date     | Change                  | Revised by | Approved |
|-----|----------|-------------------------|------------|----------|
| A   | 06.03.31 | New Issue               | KJ/JLM     |          |
| B   | 08.09.19 | Reformat P/O D3488-042  | KJ/JLM     |          |
| C   | 08.12.02 | Dimension 8.000 removed | KJ/JLM     |          |

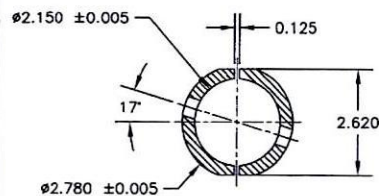




SECTION B-B

Ø0.297  
C'BORE Ø0.430 x 0.100  
INSTALL ALS4-1032-225 (OR AKS4-1032-225  
OR ALS7-1032-225 OR AKS7-1032-225)  
INSERTS AFTER FINISH  
(4 PLACES)

4



SECTION A-A

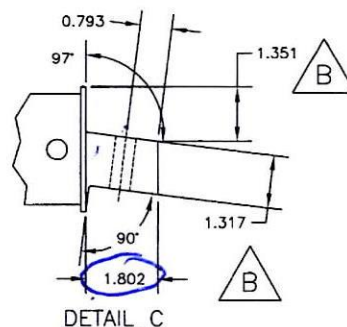
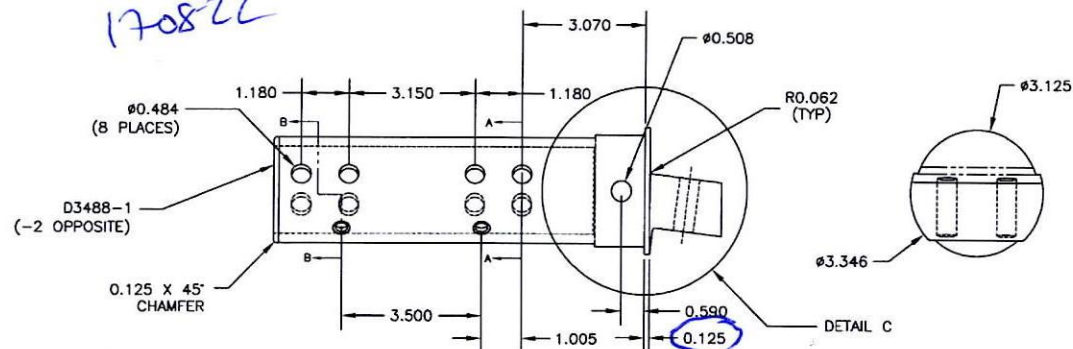
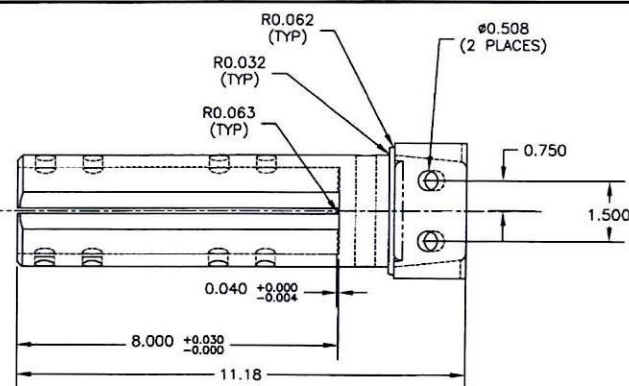
**D3488-041/-042 BLADE FITTING ASSEMBLY PARTS LIST**

| QTY<br>-041 | QTY<br>-042 | PART NUMBER                                                               | DESCRIPTION                 |
|-------------|-------------|---------------------------------------------------------------------------|-----------------------------|
| X           |             | D3488-041                                                                 | BLADE FITTING ASSEMBLY (LH) |
|             | X           | D3488-042                                                                 | BLADE FITTING ASSEMBLY (RH) |
| 1           |             | D3488-1                                                                   | BLADE FITTING (LH)          |
|             | 1           | D3488-2                                                                   | BLADE FITTING (RH)          |
| 4           | 4           | ALS4-1032-225<br>or AKS4-1032-225<br>or ALS7-1032-225<br>or AKS7-1032-225 | INSERT                      |

**D3488-041/-042 BLADE FITTING**

- MATERIAL: MAKE D3488-1/-2 FROM ALUMINUM 7075-T7351 ROUND BAR PER QQ-A-225/9 (REF. DART MATERIAL SPEC M7075T73R)  
ACID ETCH, ALODINE PER DART QSI 005 4.1  
POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- FINISH:
- BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
- INSTALL INSERTS AFTER POWDER COAT
- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

SHOP COPY  
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UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 165333  
MLC  
170822



D3488-041 SHOWN (D3488-042 OPPOSITE)

**RELEASED**  
06.03.15 PH  
REV. B  
EIN #739

|         |          |                  |
|---------|----------|------------------|
| B       | 06.03.15 | CHANGE THICKNESS |
| A       | 05.12.20 | NEW ISSUE        |
| DESIGN  | PH       | DRAWN BY PH      |
| CHECKED | PH       | APPROVED PH      |
| DATE    | 06.03.15 | TITLE            |
|         |          | BLADE FITTING    |
|         |          | SCALE            |
|         |          | 1:3              |

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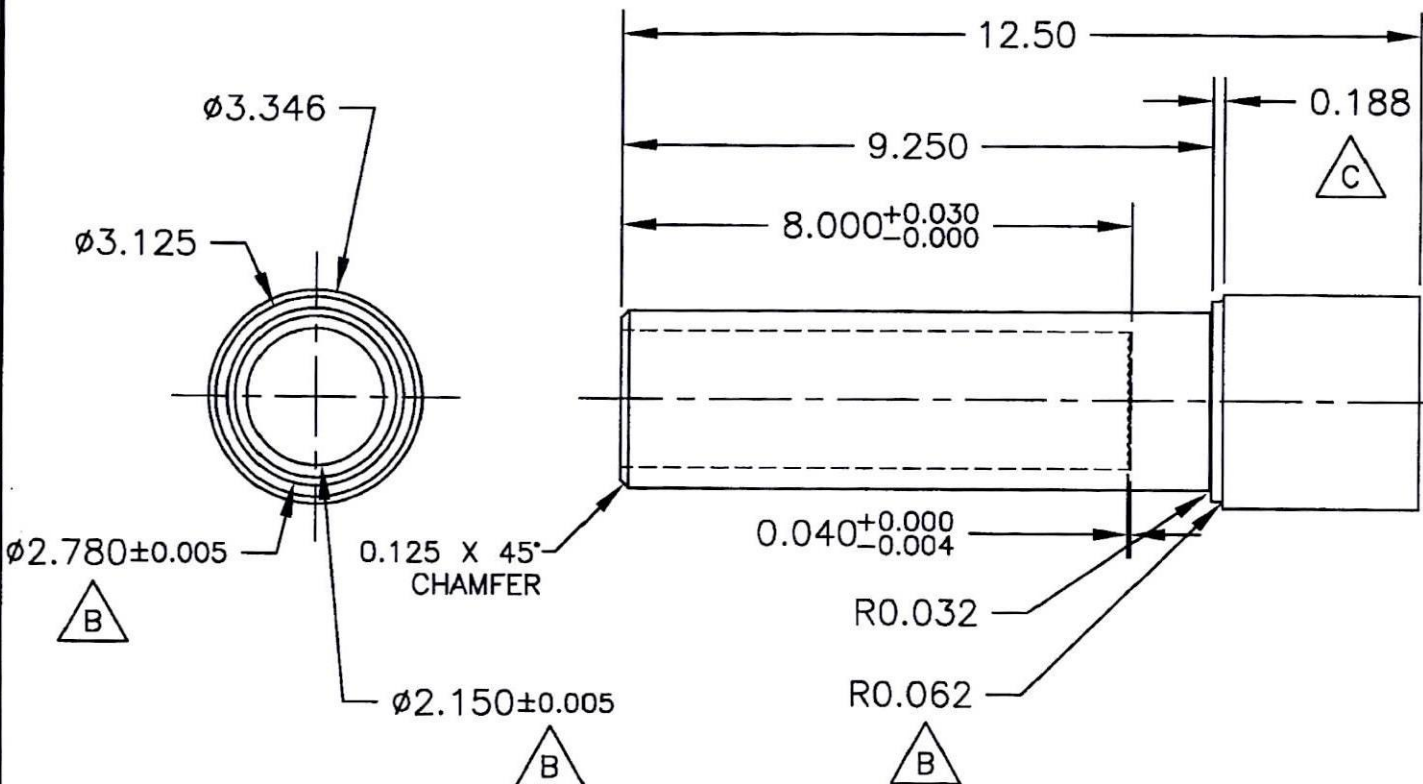
**DART** DART AEROSPACE USA, INC.  
PORT HADLOCK, MA

DRAWING NO. D3488  
REV. B  
SHEET 1 OF 1

**DART**

2005-09-14

| DESIGN   | DRAWN BY                  | DART AEROSPACE USA, INC.    | REV. D       |
|----------|---------------------------|-----------------------------|--------------|
| PH       | PH                        | PORT HADLOCK, WA            |              |
| CHECKED  | APPROVED                  | DRAWING NO.                 | SHEET 1 OF 1 |
| PH       | PH                        | DSK 101                     |              |
| DATE     | TITLE                     | SCALE                       |              |
| 06.05.09 | D3488-1/-2 TURNING DETAIL | 1:3                         |              |
| A        | 05.12.21                  | NEW ISSUE                   |              |
| B        | 06.03.02                  | ADD TOLERANCES AND RADIUS   |              |
| C        | 06.04.17                  | 0.188 WAS 0.125             |              |
| D        | 06.05.09                  | REMOVE DIAMETER FOR CHAMFER |              |

**DSK 101**

- 1) MATERIAL: MAKE FROM ALUMINUM 7075-T7351 ROUND BAR PER QQ-A-225/9 (REF. DART MATERIAL SPEC M7075T73R)
- 2) FINISH: NONE
- 3) BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED